This Listing of Claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) An associative write verify system for a holographic recording medium, comprising (1) a hologram, (2) an object beam, (3) a reference beam, (4) a probe beam, (5) a reconstituted reference beam and (6) means for comparing the reference beam with the reconstituted reference beam, wherein the system implements an associative write verify during holographic recording of data, wherein the holographic recording medium has a Rayleigh ratio ($R_{90°}$) of less than 7×10^{-3} cm^{-1}.

2. (Original) The system of claim 1, further comprising a stored address with a one-to-one correspondence to the reference beam.

3. (Original) The system of claim 1, further comprising a code comprising a data pattern within the object beam.

4. (Original) The system of claim 3, wherein the probe beam is modulated to match the code.

5. (Original) The system of claim 1, wherein the means for comparing the reference beam with the reconstituted reference beam comprises means for detecting the reconstituted reference beam.

6. (Original) The system of claim 1, wherein the associative write verify is selected from the group consisting of a parallel associative write verify, a post-glimpse page-wise verify and combinations thereof.

7. (Original) The system of claim 2, wherein the stored address corresponds to a hologram page or a reference beam angle used to record a hologram page.

8. (Original) The system of claim 7, wherein the stored address is stored in a microprocessor RAM memory or in a portion of the holographic recording medium.

9. (Original) The system of claim 2, wherein the code is a pattern in a hologram page or information from different hologram pages.

10. (Original) The system of claim 1, wherein the probe beam is generated by an object beam modulator.

11. (Original) The system of claim 1, wherein the reference beam is a plane wave reference beam generated using scanning mirrors or an array of laser beam generators.

12. (Original) The system of claim 1, wherein the reconstituted reference beam is collected by a lens.

13. (Original) The system of claim 1, wherein said means for comparing the reference beam with the reconstituted reference beam comprises a hardware or software comparator.

14. (Original) The system of claim 1, further comprising means for associative, post-glimpse page-wise verify.

15. (Original) The system of claim 14, wherein the means for associative, post glimpse page-wise verify comprises detection of the reconstituted reference beam while an original data pattern remains on a modulator after writing.

16. (Original) The system of claim 1, wherein the holographic recording medium is an optically flat planar medium.

17. (Original) The system of claim 1, wherein the reconstituted reference beam is detected with a photo detector.

18. (Original) The system of claim 1, wherein the holographic recording medium is a holographic recording medium comprising a polymer matrix.

19. (Canceled)

20. (Original) The system of claim 18, wherein the holographic recording medium has a thickness greater than 200 μm and a refractive index contrast (Δn) of 3×10^{-3} or higher.

21. (Currently Amended) A method for associative write verify system for a holographic recording medium, comprising (1) interfering an object beam with a reference beam onto the holographic recording medium to form a hologram; (2) shining a probe beam; (3) forming a reconstituted reference beam and (4) comparing the reference beam with the reconstituted reference beam, wherein the method implements an associative write verify during holographic recording <u>of data, wherein the holographic recording medium has a Rayleigh ratio ($R_{90°}$) of less than 7×10^{-3} cm^{-1}</u>.

22. (Original) The method of claim 21, further comprising a stored address with a one-to-one correspondence to the reference beam.

23. (Original) The method of claim 21, further comprising a code comprising a data pattern within the object beam.

24. (Original) The method of claim 23, wherein the probe beam is modulated to match the code.

25. (Currently Amended) The method of claim 21, wherein the comparing is done by means for comparing the reference beam with the reconstituted reference beam that comprises means for detecting the reconstituted reference beam.

26. (Original) The method of claim 21, wherein the associative write verify is selected from the group consisting of a parallel associative write verify, a post-glimpse page-wise verify and combinations thereof.

27. (Original) The method of claim 22, wherein the stored address corresponds to a hologram page or a reference beam angle used to record a hologram page.

28. (Original) The method of claim 27, wherein the stored address is stored in a microprocessor RAM memory or in a portion of the holographic recording medium.

29. (Original) The method of claim 22, wherein the code is a pattern in a hologram page or information from different hologram pages.

30. (Original) The method of claim 21, wherein the probe beam is generated by an object beam modulator.

31. (Original) The method of claim 21, wherein the reference beam is a plane wave reference beam generated using scanning mirrors or an array of laser beam generators.

32. (Original) The method of claim 21, wherein the reconstituted reference beam is collected by a lens.

33. (Currently Amended) The method of claim 21, wherein said comparing is done by means for comparing the reference beam with the reconstituted reference beam that comprises a hardware or software comparator.

34. (Original) The method of claim 21, further comprising means for associative, post-glimpse page-wise verify.

35. (Original) The method of claim 34, wherein the means for associative, post glimpse page-wise verify comprises detection of the reconstituted reference beam while an original data pattern remains on a modulator after writing.

36. (Original) The method of claim 21, wherein the holographic recording medium is an optically flat planar medium.

37. (Original) The method of claim 21, wherein the reconstituted reference beam is detected with a photo detector.

38. (Original) The method of claim 21, wherein the holographic recording medium is a holographic recording medium comprising a polymer matrix.

39. (Canceled)

40. (Original) The method of claim 38, wherein the holographic recording medium has a thickness greater than 200 μm and a refractive index contrast (Δn) of 3×10^{-3} or higher.

41. (Original) The system of claim 1, wherein the system has a probe pattern and/or geometry capable of detecting and identifying the reconstituted reference beam.

42. (Original) The system of claim 41, wherein said probe pattern and/or geometry for an angular multiplexing system comprises a lens to intercept the reconstituted reference beam and focus the reconstituted reference beam into a resolvable spot on a detector array, the reconstituted reference beam being a plane wave.

43. (Original) The system of claim 41, wherein said probe pattern and/or geometry is capable of collecting the reconstituted reference beam with a lens and imaging an origin of the spherical beam onto a detector, the reconstituted reference beam being a spherical beam.

44. (Original) The system of claim 41, wherein said probe pattern and/or geometry comprises optical elements for separating the propagating modes of the reconstituted reference beam into separated mode reconstituted reference beams and resolving said separated mode reconstituted reference beams onto a detector.

45. (Original) The system of claim 3, wherein the code comprises one or more substantially mutually orthogonal modulation codes for marking a copyright status of data within a page recorded in the holographic recording medium.

46. (Original) The method of claim 21, further comprising impinging the reconstituted reference beam upon a holographic optical element, wherein the reconstituted reference beam is recorded with a corresponding collimated or spherical index beam.

47. (Original) The method of claim 46, wherein the reconstituted reference beam is reconstituted in a system comprising wavelength, phase code or correlation multiplexing.

48. (Original) The method of claim 21, further comprising impinging the reconstituted reference beams upon a grating or prism whereby individual reconstituted reference beams of differing wavelength are separated.

49. (Original) The method of claim 21, further comprising marking a copyright status of data within a page recorded in the holographic recording medium and determining whether the data is under copyright restriction.

50. (Original) The method of claim 49, wherein the page is recorded before marking the copyright status of the data.

51. (Original) The method of claim 49, wherein said marking is done in an area of a disk wherein substantially no user data is stored.

52. (Original) The method of claim 51, wherein the area is a format area.

53. (New) An associative write verify system for a holographic recording medium, comprising (1) a hologram, (2) an object beam, (3) a reference beam, (4) a probe beam, (5) a reconstituted reference beam and (6) photodetector, wherein the system implements an associative write verify during holographic recording, wherein the holographic recording medium has a Rayleigh ratio ($R_{90°}$) of less than 7×10^{-3} cm^{-1}.

54. (New) The system of claim 1, wherein a copy of the data is kept in a buffer during the holographic recording of the data.